

IN THE CLAIMS

The following is a complete listing of the claims, which replaces all previous versions and listings of the claims.

Listing of Claims

1. (original) A method for assembling tile detectors for an imaging system, comprising the acts of:

bending a flexible panel to a curved shape;

coupling a plurality of detector tiles to the flexible panel in the curved shape; and

inversely bending the flexible panel to a desired shape to close gaps between the detector tiles.

2. (original) The method of claim 1, wherein the act of bending the flexible panel comprises the act of applying a fluid pressure to at least one side of the flexible panel.

3. (original) The method of claim 1, wherein the act of bending the flexible panel comprises the act of applying a gas pressure to at least one side of the flexible panel.

4. (original) The method of claim 1, wherein the act of bending the flexible panel comprises the act of applying a curved solid to at least one side of the flexible panel.

5. (original) The method of claim 1, wherein the act of bending the flexible panel comprises the act of supporting the flexible panel with a frame structure.

6. (currently amended) ~~The method of claim 1,~~ A method for assembling tile detectors for an imaging system, comprising the acts of:

bending a flexible panel to a curved shape;

coupling a plurality of detector tiles to the flexible panel in the curved shape, wherein the act of coupling the plurality of detector tiles comprises the act of adhering ionizing photon detector tiles to the flexible panel in a tiled configuration; and
inversely bending the flexible panel to a desired shape to close gaps between the detector tiles.

7. (original) The method of claim 6, wherein the act of adhering ionizing photon detector tiles comprises the act of providing a Cadmium-Zinc-Telluride-based detector tile.

8. (original) The method of claim 6, wherein the act of adhering ionizing photon detector tiles comprises the act of providing a Cadmium-Telluride-based detector tile.

9. (original) The method of claim 1, wherein the act of coupling the plurality of detector tiles comprises the act of picking and placing each of the detector tiles onto the flexible panel in an edge-to-edge configuration having an undesirable gap between edges of one or more adjacent pairs of the detector tiles.

10. (original) The method of claim 1, wherein the act of inversely bending the flexible panel comprises the act of releasing a bending force applied to the flexible panel.

11. (original) The method of claim 1, wherein the act of inversely bending the flexible panel comprises the act of relaxing the flexible panel to a flat shape.

12. (original) The method of claim 1, wherein the act of inversely bending the flexible panel comprises the act of partially relaxing the flexible panel to the desired shape, which has a relatively flatter curvature than the curved shape.

13. (currently amended) ~~The method of claim 1, comprising the act of forming the flexible panel by performing the acts of:~~ A method for assembling tile detectors for an imaging system, comprising the acts of:

forming a flexible panel comprising:

depositing a flexible material onto a wafer; and

removing an interior portion of the wafer to form a frame;

bending the flexible panel to a curved shape;

coupling a plurality of detector tiles to the flexible panel in the curved shape; and

inversely bending the flexible panel to a desired shape to close gaps between the detector tiles.

14. (currently amended) A method for assembling tile detectors for an imaging system, comprising the acts of:

bending a flexible panel to a curved shape;

coupling a plurality of detector tiles to the flexible panel in the curved shape;

inversely bending the flexible panel to a desired shape to close gaps between the detector tiles; and

~~The method of claim 1, comprising the act of providing each of the detector tiles as an ionizing photon detector tile intercoupled with a semiconductor wafer by intermediate connections.~~

15. (original) The method of claim 14, comprising the act of forming the intermediate connections using a plurality of solder bumps.

16. (original) The method of claim 1, comprising the act of attaching the plurality of detector tiles to a circuit board to form a multi-detector module.

17. (original) The method of claim 16, comprising the act of tiling a plurality of the multi-detector modules to a primary circuit board for the imaging system.

18. (original) The method of claim 1, comprising the act of interconnecting different detector layers using soldering materials having different melting temperatures.

19-86. (canceled)

87. (new) A method for assembling tile detectors for an imaging system, comprising the acts of:

flexing a flexible membrane into a curved shape;

coupling a plurality of detector tiles to the flexible panel at predetermined spaced intervals while the flexible membrane is being flexed in the curved shape; and

inversely flexing the flexible panel to a desired shape to close spaces between the detector tiles.